IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Yugang MA et al.

U.S. Serial No.:   Filed Concurrently Herewith

Title of Invention: MULTIPLE-USER CDMA WIRELESS
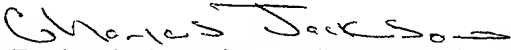   COMMUNICATION SYSTEM
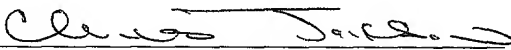
                                           745 Fifth Avenue
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PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Box Patent Application (35 U.S.C. 111)
Washington, D.C. 20231

Sir:

Before the issuance of the first Office Action, please amend the above-identified

application as follows:

IN THE CLAIMS:

Please amend claims 3-5 and 10-12 as follow:

3.   (Amended) A receiver according to claim 2 in which there are at least two said branch

processing means;

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said decision means combining the outputs of the at least two branch processing means to generate a combined signal, and using the combined signal to generate the error signal and the estimate of the data in the received signal intended for the receiver.

4.   (Amended) A receiver according to claim 3, adapted to receive CDMA signals with a processing gain of N;

said reception means generating G measurements in each chip duration of the CDMA signal, where G is an integer;

each said set of weights consisting of $G(2M+1)$ weights, where M is an integer;

said combined signal being a sum over the branch processing means of the product of (i) a vector derived from said spreading code for the receiver and the scrambling code of the corresponding base station; (ii) a data matrix composed of said measurements and having $G(2M+1)$ x N components; and (iii) the set of weights for that branch processing means.

5.   (Amended) A receiver according to claim 3 in which the detection means is arranged to generate said error signal as the difference between said combined signal and a correction signal.

10.   (Amended) A method according to claim 9 in which the received signal is transmitted along at least two said branches;

said decision means combining the outputs of the at least two branches to generate a combined signal, and using the combined signal to generate the error signal and the estimate of the data in the received signal intended for the receiver.

11.   (Amended) A method according to claim 10 in which said CDMA signals have a processing gain of N;

said step of receiving a signal includes generating G measurements in each chip duration of the CDMA signal, where G is an integer;

each said set of weights consists of G(2M+1) weights, where M is an integer; and

said combined signal is a sum over the branches of the product of (i) a vector derived

from said spreading code for the first user and the scrambling code of the corresponding base

station; (ii) a data matrix composed of said measurements and having (G(2M+1) x N

components, and (iii) the set of weights for that branch.

12.   (Amended) A method according to claim 10 in which said error signal is the difference

between said combined signal and a correction signal.

Add new claims 16 and 17 as follows:

--16.   (New) A receiver according to claim 1 in which there are at least two said branch

processing means;

said decision means combining the outputs of the at least two branch processing means to

generate a combined signal, and using the combined signal to generate the error signal and the

estimate of the data in the received signal intended for the receiver.--

--17.   (New) A method according to claim 8 in which the received signal is transmitted along at

least two said branches;

said decision means combining the outputs of the at least two branches to generate a combined

signal, and using the combined signal to generate the error signal and the estimate of the data in

the received signal intended for the receiver.--

REMARKS

Claims 1-17 remain in the application. Claims 3-5 and 10-12 have been amended and claims 16 and 17 are added to eliminate multiple dependencies. Attached hereto is a marked up version of the changes made to claims 3-5 and 10-12 by the current amendment. The attached page is captioned **"Version with markings to show change made."** The filing fee has been calculated based upon these amendments to the claims.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

3.   (Amended) A receiver according to ~~claim 1 or~~ claim 2 in which there are at lease two said branch processing means;

said decision means combining the outputs of the at least two branch processing means to generate a combined signal, and using the combined signal to generate the error signal and the estimate of the data in the received signal intended for the receiver.

4.   (Amended) A receiver according to claim 3 ~~when dependent on claim 2~~, adapted to receive CDMA signals with a processing gain of N;

said reception means generating G measurements in each chip duration of the CDMA signal, where G is an integer;

each said set of weights consisting of G(2M+1) weights, where M is an integer;

said combined signal being a sum over the branch processing means of the product of (i) a vector derived from said spreading code for the receiver and the scrambling code of the corresponding base station; (ii) a data matrix composed of said measurements and having G(2M+1) x N components; and (iii) the set of weights for that branch processing means.

5.   (Amended) A receiver according to claim 3 ~~or claim 4~~ in which the detection means is arranged to generate said error signal as the difference between said combined signal and a correction signal.

10.   (Amended) A method according to ~~claim 8 or~~ claim 9 in which the received signal is transmitted along at least two said branches;

said decision means combining the outputs of the at least two branches to generate a combined signal, and using the combined signal to generate the error signal and the estimate of the data in the received signal intended for the receiver.

11.   (Amended) A method according to claim 10 ~~when dependent on claim 9~~ in which said CDMA signals have a processing gain of N;

said step of receiving a signal includes generating G measurements in each chip duration of the CDMA signal, where G is an integer;

each said set of weights consists of $G(2M+1)$ weights, where M is an integer; and

said combined signal is a sum over the branches of the product of (i) a vector derived from said spreading code for the first user and the scrambling code of the corresponding base station; (ii) a data matrix composed of said measurements and having $G(2M+1)$ x N components, and (iii) the set of weights for that branch.

12.   (Amended) A method according to claim 10 ~~or 11~~ in which said error signal is the difference between said combined signal and a correction signal.